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ABSTRACT

In order to test the internal evaluative processes and not merely the final reactions of an audience to a speaker, 97 Caucasian college students expressed their attitudes toward Malcolm X while listening to a 25-minute tape-recorded speech by him. Eight 30-second silent intervals at natural pauses in the speech gave the students time to respond during the stimulus speech. The subjects completed semantic-differential pre- and post-tests on Malcolm X. Two control groups responded only to the pre- and post-tests--group A without hearing the speech, group B hearing it uninterrupted. Eight scaled evaluative sets were used to determine attitude toward the speaker (i.e., reputable, kind, educated, selfish). Although post-test results for the experimental group and control group B were remarkably similar (thus negating the possibility of experimental disruptive effects), results obtained from the experimental group during the speech's eight intervals revealed significant shifts in the group's attitude toward the speaker. Informed statements can be made about when changes occurred, at what rate, and in relationship to what speech content. It was concluded that this process analysis of communication presents a fuller, truer description of audience reactions than the traditional static methods of evaluation. (MF)

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SPEECH AS PROCESS: A CASE STUDY

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THE best contemporary models of communication attempt to portray on-going interaction and change occurring over time. These models assume that when speaker addresses listener he participates in a host of developing and everchanging relationships with his audience, his message, and his environment. He does not engage in a discrete event but in a dynamic process that has no clear beginning, no distinct finale. The process approach is as old as Heraclitus' view of flux ("We are and we are not") and as current as contemporary philosophy of science. It is a basic way of seeing the universe.

While most theoretical writings emphasize the dynamic nature of communication, in practice the bulk of research on influence through speech imposes a static view. The concentration is on investigating the outcome of the process rather than on the process itself. The studies frequently involve comparing scores on an attitude scale administered prior to a speech with scores obtained following the speech. There has been much discussion of the traditional pretest-posttest design, and numerous other designs have been suggested.¹

Each design, however, be it pretest-posttest or posttest only or four-group design or offset, before-after design, yields as basic data for inferences about effects a pretest and/or posttest measurement. Our concern is not to compare these designs but to question the adequacy of only one or two measurements for assessing speech effects.

Viewing speech as process and wishing to gain maximum information from which to make inferences about speech effects, we are concerned with how many measurements should be made and when they should be made. At what point in the speech process does influence occur? Does it occur gradually over time or in a few sudden steps? Does it develop in a linear monotonic pattern, or is the function more complex? Might there be influences which occur between pretest and posttest but apart from the stimulus message? Answers to these questions are untapped in most studies following traditional patterns. The ongoing process—the basic character of communication—is usually slighted in favor of a finding determined *after* a speech, although the effects presumably occurred *during* the speech. Yet procedures for analysis of process are readily available.² Below we present a study

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which we think reveals the practicality and advantages of a process approach to one question about communication and which yields findings of considerable significance.

The present study sought to investigate an important speech phenomenon: changes in an audience's evaluative responses to a speaker *during* his speech. Most studies of audience's attitudes toward speakers (ethos) have used pretest-posttest designs.³ Only a few of those surveyed by Andersen and Clevenger made explicit the view that an auditor's evaluation of a speaker changes during the communication.⁴ Even these studies followed the usual paradigm and did not measure audience response during the communication. Our desire to examine one aspect of ethos—evaluative responses toward the speaker—as a developing, on-going process, prompted these interrelated questions:

- 1) Do evaluative responses toward a speaker vary during a speech?
- 2) If such variations occur, do they occur in a linear pattern or do they occur in some other function?
- 3) How do findings generated by this technique compare with more traditional methods of assessing speech effects?

PROCEDURE

Stimulus speech. The stimulus speech for this study was a tape-recorded 25-minute address to a predominantly

white, college audience by Malcolm Little (Malcolm X), the late spokesman for the Black Muslims.⁵ He spoke in support of the proposition that American Negroes should separate from white society. The tape recording was edited by splicing seven silent periods into the speech and attaching an eighth silent period immediately after Malcolm's closing words. Each silent period had a duration of thirty-seconds. Each was positioned at what seemed a "natural" division of the speech: the first silent period came at thirty seconds into the address, following a brief introductory prayer by the speaker; the remaining silent periods were spaced at intervals from three and one-half to five minutes apart, with an average interval of four minutes, usually at the conclusions of the main themes of the speech. Our major concern in positioning the silent periods was to avoid disturbing the continuity of the speech while approximating equal spacing. The silent periods provided eight intervals during which evaluative responses toward the speaker were measured.

Measurements. Semantic-differential, evaluative scales were used in the pretest, the eight intervals, and the posttest measurements. Each administration consisted of a set of three scales with high factor loadings on the evaluative dimension and two "filler" or "masking" scales.⁶ The attitude concept measured was "Malcolm X." The order of the sets of scales for the eight interval measurements⁷ was randomized so that each set

of three evaluative scales appeared in each silent period approximately an equal number of times. To be sure, some difficulties arise from using eight different sets of evaluative scales. We judged, however, that the difficulties would be fewer than those which might result from eight repeated measurements with a single set of scales. The mean of each set was determined and the eight sets were adjusted to a common mean to correct for inherent inflation or deflation effects within a set.⁸

Subjects. Numerous studies of audiences' attitudes have dramatized the effects upon audience responses of organismic variables such as prior attitude, intelligence, and sex. In order to control any influence of these variables upon our major results, these variables were included as elements of the design. The ninety-seven subjects who took part in this study were grouped according to higher and lower intelligence based upon college entrance tests and higher and lower initial attitude toward the speaker based upon the pretest attitude scale, by dividing the group at the median on the relevant distribution. The subjects were further grouped according to sex. From this division, it was possible to assign five subjects to each cell ($n = 40$) in a $2 \times 2 \times 2$ repeated-measurements design with prior attitude, intelligence, and sex serving as in-

dependent variables and evaluative responses toward the speaker, observed at the eight intervals, serving as the dependent variable. All subjects were Caucasian undergraduate students in introductory public speaking classes.

The subjects completed a semantic-differential pretest on Malcolm X (with masking items) three days prior to hearing the stimulus speech. During the class period devoted to the study, the subjects heard the stimulus speech and completed the speaker evaluations during the eight intervals. At the conclusion of that period, the subjects completed an additional semantic-differential posttest for Malcolm X.

Control groups. Because of the questions of this study and because of the repeated-measurements process analysis, two control groups were employed. Control group A ($n = 14$) served as the standard control against which to assess pretest-posttest changes in attitude by subjects. Control A was given the pretest and posttest but did not hear the speech. This group controlled for changes which could be attributed to factors other than the conditions of the study.

As Becker has observed, some critics claim that interruptions, such as the interval tests used in this study, "... distract the respondent from the message and thus make his response abnormal."⁹ In order to examine that possibility Control B ($n = 20$) was established. This group was given the pretest, listened to an unedited version of the speech that did not contain the eight silent periods, gave no interval responses, and was given the posttest. This group controlled for possible disruptive effects of the repeated measurements.

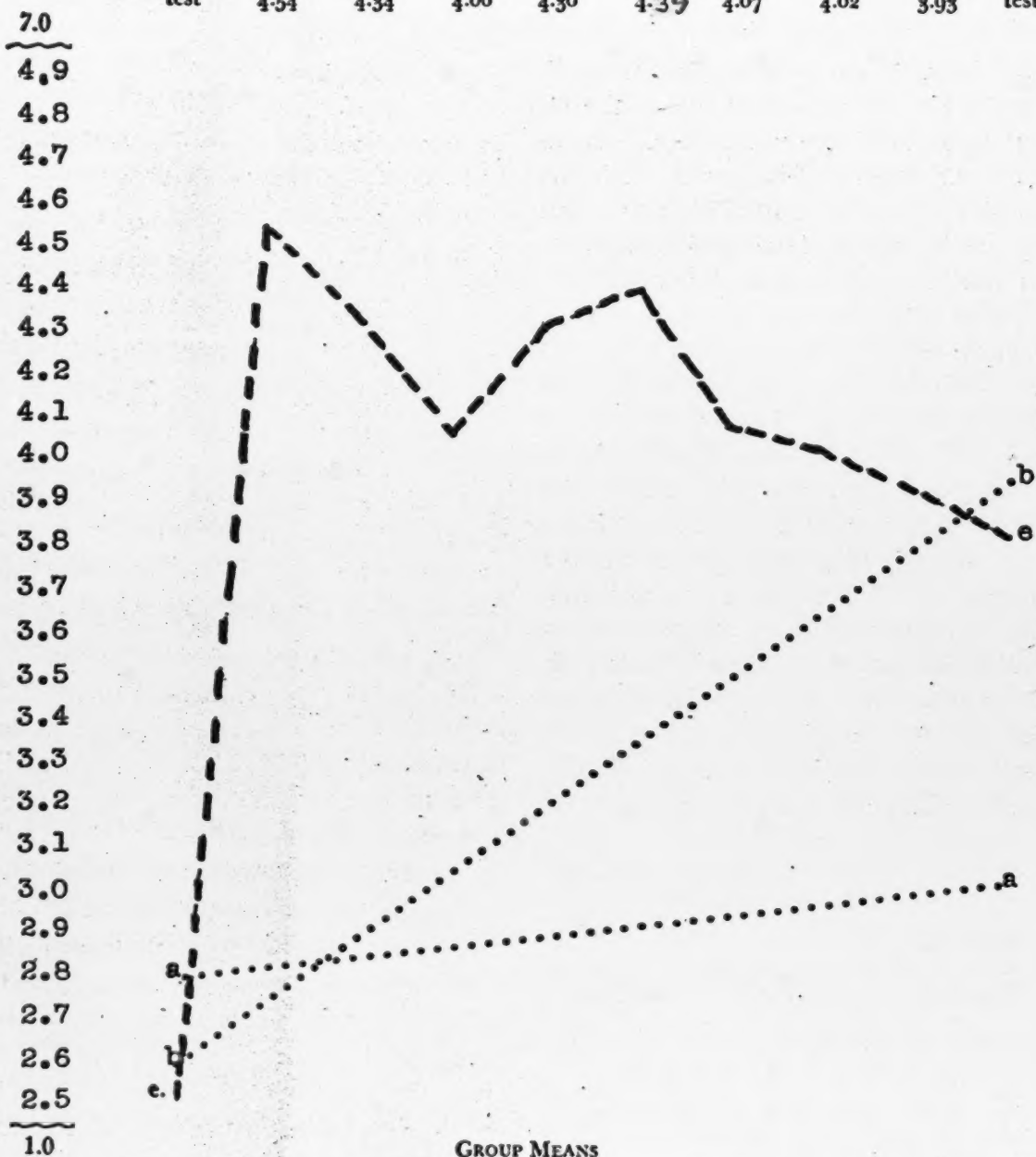
RESULTS

Figure 1 presents a summary profile of the experimental and control groups' evaluative responses toward the speaker. All data are reported in terms of the mean item score for the three seven-point semantic-differential scales used for each measurement. The dashed-line graph

represents the internal-intervals measurements for the experimental group. Pre- and posttest means are given for the experimental group and the two control groups. The shifts in evaluative responses for the control groups are illustrated by the dotted-line graphs. Relevant *t* tests are appended to Figure 1.

FIGURE 1
EVALUATIVE RESPONSES TOWARD SPEAKER OVER TIME INTERVALS

	Pre-test	Time 1 4-54	Time 2 4-34	Time 3 4-06	Time 4 4-30	Time 5 4-39	Time 6 4-07	Time 7 4-02	Time 8 3-93	Post-test
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GROUP MEANS			
Group	Pretest	Posttest	<i>t</i>
Experimental (c)	2.53	3.82	5.83*
Control A (a)	2.79	3.00	.79
Control B (b)	2.58	3.93	3.32*

*Significant at the 1 percent level.

The following conclusions may be drawn from the analysis of the data:

1) The differences between the means of the experimental and two control groups on the pretest are minimal and statistically nonsignificant. It can be assumed that the groups did not differ initially in evaluation of the speaker.

2) The pretest-to-posttest change in evaluative response toward the speaker was slight and statistically nonsignificant for Control A, the group which did not hear the speech. The changes for the Experimental group and Control B, the group which heard the uninterrupted speech, showed significant increases in evaluation of the speaker. The remarkable similarity between the pre- and posttest means for the Experimental group and Control B gives some indication that the process-analysis technique was not so disruptive that it influenced subjects' responses.

3) The controlled organismic variables were not found to be related to evaluations of the speaker over time. The $2 \times 2 \times 2$ repeated-measurements analysis of variance revealed no significant main effect or interaction involving the organismic variables. This finding allows for wider generalizing from the following results.

4) The trend analysis of Times indicated significant changes in evaluation of the speaker over time ($F = 2.32$, with d.f. of 7 and 224, $p < .05$). A test of the nature of the trend revealed a significant linear trend in the interval measurements ($F = 9.90$, with d.f. of 1 and 224, $p < .01$). These results, aided by inspection of the graph and the significant difference between the means at Time 1 and Time 8 ($t = 2.92$, $p < .01$), lead to the conclusion that the best description of evaluation of the speaker during the speech process would be that it was a decreasing evaluation varying only slightly from a linear scale.

CONCLUSIONS AND DISCUSSION

The results of this study lead to several conclusions which we think could well influence the design of future studies and interpretation of past inquiries into aspects of attitude change.

First, process analysis by internal measurements appears to be a practical method of inquiry. The close proximity of the posttest scores for the Experimental and Control B groups indicate little disruptive effect. It should also be said that during the stimulus situation no subject was observed to be overtly distressed or annoyed by the interruptions. Moreover, after all data were collected, one of the writers returned to the classes to answer questions and discuss the study with the participants; none voiced displeasure with the measuring technique employed. It appears that while such interruptions are exceptional, they need not generate abnormal responses.

If the internal measurements produced testing effects not measured or observed during this study, however, future investigations could probably minimize such effects by incorporating one of the following modifications. The silent intervals could be shortened; thirty-seconds appeared to be more than adequate in the present study. The number of intervals or the number of scales used in each interval could be decreased. By decreasing the number of intervals, of course, one runs the risk of obscuring certain effects within the communication. Ideally, one might employ continuous paper and pencil or electronic measurements that would do away with formal interruptions entirely. Further research would be necessary to assess the efficacy of any of these modifications. We do not assume they are necessary; they are mentioned solely to suggest alternative procedures for examining on-going speech processes.

In addition to their practicality, process-analysis methods provide a richer description and more confident assessment of communication effects. Internal measurements aid the researcher in locating communication elements that appear to induce attitude change. For example, in the present study an increase in favorable evaluations toward Malcolm X was observed at Time 4. The speaker had just argued that the Black Muslim movement had restored pride to the Negro race and diminished hate the Negroes allegedly bear toward their blackness. In the interval preceding Time 6, Malcolm X had argued thus: A Negro who wants integration thinks "... that he should have *your* house; he thinks he should have *your* factory; he thinks that he should have *your* school; and most of them think that they should have *your* woman, and most of them are *after your woman*." The measurement (Time 6) revealed a negative shift in evaluation in contrast to the relatively favorable measurements achieved at Time 4 and Time 5. The measurements did not increase in favorableness after Time 6: Times 7, 8, and posttest revealed decreasing evaluations. The content following Time 5 and preceding Time 6, then, may well provide the most significant data about the speech. In any event, the internal measurements were useful items in both describing and assessing the decline in favorable evaluations observed in the speech. One now knows not merely that Malcolm's ethos diminished during this speech; we can make informed statements about *when* and at what rate and in relationship to which speech contents.

The importance of process analysis, it seems to us, is dramatized by a comparison of the Experimental with Control B data. An analysis of the data from one of these groups *in isolation from the other group* would produce diametrically

opposed findings. The data for Control B, collected in the traditional pretest-posttest pattern, would be interpreted as indicating Malcolm's ethos increased favorably during the speech. Pretest and posttest data *alone* from the experimental group would warrant a similar conclusion, an increase in ethos. But inspection of the graph for changes over time (Figure 1) and the test of trend argue more fully that Malcolm's ethos *declined* during the speech. The increase reflected in the Control B findings apparently was generated sometime between the pretest and the first interval measurement, Time 1, which followed the opening words. A process analysis allows us to locate the time period in which the shift occurred. In the present study this advantage proved to be crucial in interpreting the results. Had we followed the traditional pattern and relied only on pretest to posttest differences, our description of the speaker's effects would have at best been inadequate if not absolutely inaccurate.

How can one account for the remarkable shift between the pretest and the first measurement? One is tempted to turn to the content which preceded Time 1, a short prayer of thanks to Allah for sending Elijah Muhammad to help American Negroes. However, the prayer was delivered rather rapidly and, it seemed to us, perfunctorily. It hardly seemed potent enough to spark significant changes in an audience composed of white non-believers whose pretest attitudes toward the speaker and his movement were negative. Our view at the moment is that the mere presence (or, *via* tape recording, the "quasi-presence") of a speaker generates early shifts in attitudes toward him, especially in the presence of audiences who have had little or no direct prior contact with the speaker. In such cases pretest attitudes might be very unstable as they are not based

on any actual experience with the object of the attitude. When the unfamiliar "enemy" appears before us in person, or through the medium of his voice, it may be our tendency to endow him with an unsuspected humanness and to conclude that he cannot be as bad as his reputation. Conversely, perhaps when the unfamiliar "hero" presents himself, we find that he is all too human. That is another question.¹⁰

If the early shift in attitude noted here is a general phenomenon, it certainly should shape our interpretation of past studies which have followed the traditional pretest-posttest designs.¹¹ It might well indicate that the significant shifts assumed to have occurred between pretest and posttest transpired very early in the speech, or perhaps in the experimental setting prior even to the first words of the speech,¹² and that the shifts

during the balance of the speech were minimal or in an opposing direction. In other words, studies which report a favorable or negative shift on the basis of pretest and posttest differences may well have overlooked a significant shift in the opposite direction by taking the wrong starting points. Specifically, we suggest that pretest measurements are more meaningful if taken in the presence or simulated presence of the speaker. In many experimental situations this may mean "pretesting" after the speaker or his recorded voice or image has begun.

In summary, we find analysis of a communication through time a practical method of inquiry and a method consonant with the view that communication is a process. Further, the method employed here provided a fuller and, we think, truer description of audience response during speech. We believe this method may be an important improvement over traditional procedures. Last, one of our findings—the early shift effect—may have profound implications for interpretation of past research and for design of future studies.

FOOTNOTES

¹See for example: Donald Campbell, "Factors Relevant to the Validity of Experiments in Social Settings," Psychological Bulletin, LIV (July 1950), 297-312; Samuel Stouffer, "Some Observations on Study Design," American Journal of Sociology, LV (January 1950), 355-361; Richard Solomon, "An Extension of Control Group Design," Psychological Bulletin XLVI (March 1949), 137-150; Donald Campbell and Julian Stanley, "Experimental and Quasi-Experimental Designs for Research in Teaching," in N. L. Gage, ed., Handbook of Research on Teaching (Skokie, Ill., 1963), Chapter 5; William Brooks, "Effects of a Persuasive Message upon Attitudes: A Methodological Comparison for an Offset Before-After Design with a Pretest-Posttest Design," The Journal of Communication, XVI (September 1966), 180-188.

²For reviews of selected procedures applicable to process analysis see Samuel Becker, "Methodological Analysis in Communication Research," Quarterly Journal of Speech, LI (December 1965), 382-391, especially page 388, and Samuel Becker, "Reaction Profiles: Studies of Methodology," Journal of Broadcasting, IV (Summer 1960), 253-268, especially pages 254-255.

³Many studies of ethos measure attitudes toward propositions attributed to favorable, unfavorable, or neutral sources rather than toward the source itself. But here, too, the indirect measurements of ethos are drawn from the standard pretest-posttest or after-only designs. See Kenneth Andersen and Theodore Clevenger, Jr., "A Summary of Experimental Research in Ethos," SM, XXX (June 1963), 59-78.

⁴Andersen, and Clevenger, p. 68.

⁵The data for this study were collected at San Diego State College, prior to Malcolm's ouster from the Black Muslims and before his assassination. The speech originally was given before students at Cornell University in March 1962.

⁶The scales were selected from Charles

⁶The scales were selected from Charles Osgood, George Suci, and Percy Tannenbaum, The Measurement of Meaning (Urbana, 1957), Chapter 2.

⁷The eight evaluative sets were: high-low, wise-foolish, and honest-dishonest; influential-uninfluential, intelligent-unintelligent, and true-false; successful-unsuccessful, superior-inferior, and beneficial-harmful; positive-negative, right-wrong, and unselfish-selfish; reputable-disreputable, useful-useless, and educated-ignorant; good-bad, important-unimportant, and rising-falling; optimistic-pessimistic, complete-incomplete, and meaningful-meaningless; kind-cruel, perfect-imperfect, and fortunate-unfortunate. During the administration, the positive and negative poles of the scales were positioned at random.

⁸Our procedure here followed the pattern discussed in the section on "Problems in Rating-scale Construction and Use," in J. P. Guilford, Psychometric Methods, second ed. (New York, 1954), pp. 278-294.

⁹Becker, "Methodological Analysis . . . ," p. 388.

¹⁰Compare the discussion of assimilation and contrast effects in David Krech, Richard Crutchfield, and Egerton Ballachey, Individual in Society (New York, 1962), pp. 31-32.

¹¹In research in progress we have found confirmation of the generality of this effect with speakers toward whom audiences held negative pretest attitudes. We hope soon to investigate this with speakers who elicit favorable pretest scores.

¹²See, for example, William McGuire and Susan Millman, "Anticipatory Belief Lowering Following Forewarning of a Persuasive Attack," Journal of Personality and Social Psychology, II (October 1965), 471-479; James McCroskey and Robert Dunham, "Ethos: A Confounding Element in Communication Research," SM, XXXIII (November, 1966), 456-463.